SEQUENCE LISTING

- <110> KYOWA HAKKO KOGYO CO., LTD.
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- <130> P-38524
- <150> JP 2000-308526
- <151> 2000-10-06
- <160> 73
- <170> PatentIn Ver. 2.1
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- <211> 2008
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                                         25
                    20
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                35
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                                 55
            50
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- Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Asp Leu Gly Lys Asp His 100 105 110
- Glu Ile Leu Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe 115 120 125
- Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys Lys Leu Glu Gly Asn Glu 130 135 140
- Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu 145 150 155 160
- Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala 165 170 175
- Gly Glu Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln 180 185 190
- Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Arg 195 200 205
- Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu 210 215 220
- His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr 225 230 235 240
- Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu 245 250 255
- Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu 260 265 270
- Ser Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val 275 280 285
- Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu 290 295 300

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Gly	Asp	Pro	Ala	Val 325	Trp	Trp	Val	Ser	G1n 330	Phe	Val	Lys	Tyr	Leu 335	Ile
Arg	Pro	G1n	Pro 340	Trp	Leu	Glu	Arg	G1u 345	Ile	Glu	Glu	Thr	Thr 350	Lys	Lys
Leu	Gly	Phe 355	Lys	His	Pro	Val	Ile 360	Gly	Val	His	Val	Arg 365	Arg	Thr	Asp
Lys	Val 370	Gly	Thr	Glu	Ala	Ala 375	Phe	His	Pro	Ile	G1u 380	Glu	Tyr	Met	Val
His 385	Val	G1u	Glu	His	Phe 390	Gln	Leu	Leu	Glu	Arg 395	Arg	Met	Lys	Val	Asp 400
Lys	Lys	Arg	Val	Tyr 405	Leu	Ala	Thr	Asp	Asp 410	Pro	Ser	Leu	Leu	Lys 415	Glu
Ala	Lys	Thr	Lys 420	Tyr	Ser	Asn	Tyr	Glu 425	Phe	Ile	Ser	Asp	Asn 430	Ser	Ile
Ser	Trp	Ser 435		Gly	Leu	His	Asn 440	Arg	Tyr	Thr	Glu	Asn 445	Ser	Leu	Arg
Gly	Val 450	Ile	Leu	Asp	Ile	His 455	Phe	Leu	Ser	Gln	Ala 460	Asp	Phe	Leu	Val
Cys 465		Phe	Ser	Ser	Gln 470	Val	Cys	Arg	Val	Ala 475		Glu	Ile	Met	G1n 480
Thr	Leu	His	Pro	Asp 485	Ala	Ser	Ala	Asn	Phe 490		Ser	Leu	Asp	Asp 495	Ile
Tyr	Tyr	Phe	Gly 500		Gln	Asn	Ala	His 505		Gln	Ile	Ala	Val 510		Pro
His	Gln	Pro		Thr	Lys	Glu	Glu 520		Pro	Met	Glu	Pro 525	Gly	Asp	Ile

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G1y	Asp	Trp	Arg 180	Glu	Lys	Glu	Ala	Lys 185	Asp	Leu	Thr	Glu	Leu 190	Val	Gln
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Lys	Leu 210	Val	Cys	Asn	Ile	Asn 215	Lys	Gly	Cys	Gly	Tyr 220	Gly	Cys	Gln	Leu
His 225	His	Val	Val	Tyr	Cys 230	Phe	Met	Ile	Ala	Tyr 235	Gly	Thr	G1n	Arg	Thr 240
Leu	Ile	Leu	G1u	Ser 245	Gln	Asn	Trp	Arg	Tyr 250	Ala	Thr	Gly	Gly	Trp 255	Glu
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Val	G1u 290	Leu	Pro	Ile	Val	Asp 295		Leu	His	Pro	Arg 300	Pro	Pro	Tyr	Leu
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Gly	Asp	Pro	Ala	Val 325		Trp	Val	Ser	G1n 330		Val	Lys	Tyr	Leu 335	Ile
Arg	Pro	G1n	Pro 340		Leu	Glu	Lys	Glu 345		e Glu	Glu	Ala	Thr 350	Lys	Lys
Leu	Gly	Phe 355		His	Pro	Val	Ile 360		Val	His	Val	Arg 365	Arg	Thr	Asp

Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val 370 375 380

His Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp 385 390 395 400

Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Thr Leu Leu Lys Glu 405 410 415

Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile 420 425 430

Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg 435 440 445

Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val 450 455 460

Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln 465 470 475 480

Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile 485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro 500 505 510

His Lys Pro Arg Thr Glu Glu Glu Ile Pro Met Glu Pro Gly Asp Ile 515 520 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Ile Asn 530 535 540

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Artificial Sequence	
Description of Artificial Sequense: Synthetic DNA	
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31	
Artificial Sequence	
Description of Artificial Sequense: Synthetic DNA	
31	
cactt gtgtagcgcc aagtg	25
. 22	
DINA Antificial Sequence	
	29 25 DNA Artificial Sequence Description of Artificial Sequense: Synthetic DNA 29 aaca agtaacaaca gccag 30 28 DNA Artificial Sequence Description of Artificial Sequense: Synthetic DNA 30 ttcag cccacttcaa ttattggc 31 25 DNA Artificial Sequence Description of Artificial Sequense: Synthetic DNA 31 cactt gtgtagcgcc aagtg 32 24 DNA

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<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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<211> 1965

<212> DNA

<213> Cricetulus griseus

<400> 51

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)

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Met A	Ala	His	Ala	${\tt Pro}$	Ala	Ser	Cys	Pro	Ser	Ser	Arg	Asn	Ser	Gly	Asp	
1				5					10					15		
ggc g	gat	aag	ggc	aag	ccc	agg	aag	gtg	gcg	ctc	atc	acg	ggc	atc	acc	96
Gly A																
-	_		20					25					30			
ggc (~ a a	aat	aac	tca	tac	ttσ	gca	gaa	t.t.c	ctg	ctg	gag	aaa	gga	tac	144
Gly (
, \		35	,		- , -		40					45	•			
	_4.4						0.75	+	0.4	too	+++	22+	202	aat	caa	192
gag g																132

			cat His														240
			cac His														288
			gaa Glu														336
)			aag Lys														384
			ggc Gly 135														432
			tct Ser														480
)			caa Gln														528
			tat Tyr			Ala					Tyr					Asn	576
			gag Glu							Val					Phe		624
			agt Ser 215											Lys			672
	cgg	tca	gta	gct	aag	att	tac	ctt	gga	caa	ctg	gaa	tgt	ttc	agt	ttg	720

Arg Ser Val Ala Lys Ile Tyr Leu Gly Gln Leu Glu Cys Phe Ser Leu 230 235 240	
gga aat ctg gac gcc aaa cga gac tgg ggc cat gcc aag gac tat gtc Gly Asn Leu Asp Ala Lys Arg Asp Trp Gly His Ala Lys Asp Tyr Val 245 250 255 260	8
gag gct atg tgg ctg atg tta caa aat gat gaa cca gag gac ttt gtc Glu Ala Met Trp Leu Met Leu Gln Asn Asp Glu Pro Glu Asp Phe Val 265 270 275	16
ata gct act ggg gaa gtt cat agt gtc cgt gaa ttt gtt gag aaa tca Ile Ala Thr Gly Glu Val His Ser Val Arg Glu Phe Val Glu Lys Ser 280 285 290	54
ttc atg cac att gga aag acc att gtg tgg gaa gga aag aat gaa aat 99. Phe Met His Ile Gly Lys Thr Ile Val Trp Glu Gly Lys Asn Glu Asn 295 300 305	12
gaa gtg ggc aga tgt aaa gag acc ggc aaa att cat gtg act gtg gat Glu Val Gly Arg Cys Lys Glu Thr Gly Lys Ile His Val Thr Val Asp 310 315 320	60
ctg aaa tac tac cga cca act gaa gtg gac ttc ctg cag gga gac tgc 1 Leu Lys Tyr Tyr Arg Pro Thr Glu Val Asp Phe Leu Gln Gly Asp Cys 325 330 335 340	800
tcc aag gcg cag cag aaa ctg aac tgg aag ccc cgc gtt gcc ttt gac 1 Ser Lys Ala Gln Gln Lys Leu Asn Trp Lys Pro Arg Val Ala Phe Asp 345 350 355	056
gag ctg gtg agg gag atg gtg caa gcc gat gtg gag ctc atg aga acc 1 Glu Leu Val Arg Glu Met Val Gln Ala Asp Val Glu Leu Met Arg Thr 360 365 370	104
aac ccc aac gcc tga gcacctctac aaaaaaaattc gcgagacatg gactatggtg 1 Asn Pro Asn Ala 375	159
cagagccagc caaccagagt ccagccactc ctgagaccat cgaccataaa ccctcgactg 1 cctgtgtcgt ccccacagct aagagctggg ccacaggttt gtgggcacca ggacggggac 1 actccagagc taaggccact tcgcttttgt caaaggctcc tctcaatgat tttgggaaat 1 caagaagttt aaaatcacat actcatttta cttgaaatta tgtcactaga caacttaaat 1	.279 .339

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agaa	a															125
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1				5					10					15		
G1 v	Asn	Ive	Gl v	Lys	Pro	Arg	Lvs	Val	Ala	Leu	Ile	Thr	Gly	Ile	Thr	
Oly	пор	ЦуЗ	20	Дуб		6	2,2	25					30			
						*					_	0.1	·	01	Т -	
Gly	Gln		Gly	Ser	Tyr	Leu		Glu	Phe	Leu	Leu		Lys	GLy	lyr	
		35					40					45				
Glu	Va1	Hic	G1 v	Ile	Val	Arg	Arg	Ser	Ser	Ser	Phe	Asn	Thr	G1y	Arg	
Olu	50	1113	Oly	110	, 41	55					60					
Ile	Glu	His	Leu	Tyr	Lys	Asn	Pro	G1n	Ala	His	Ile	Glu	Gly	Asn	Met	
65					70					75					80	
	,	11.		C1	۸	1	The	Aon	Sor	Thr	Cve	Lau	Val	Ivs	He	
	Leu	HIS	lyr	Gly		Leu	1111	ASP	Sei	95	Cys	Leu	Val	БуЗ	100	
85					90					50						
Ile	Asn	Glu	Val	Lys	Pro	Thr	Glu	Ile	Tyr	Asn	Leu	Gly	Ala	Gln	Ser	
				105					110					115		

 $\ensuremath{\texttt{\langle 223\rangle}}$ Description of Artificial Sequence: Synthetic DNA

His	Val	Lys	11e 120	Ser	rne	ASP	Leu	125	GIU	1 91	1111	ЛІА	130	141	пор
Gly	Val	Gly 135	Thr	Leu	Arg	Leu	Leu 140	Asp	Ala	Ile	Lys	Thr 145	Cys	Gly	Leu
Ile	Asn 150	Ser	Val	Lys	Phe	Tyr 155	Gln	Ala	Ser	Thr	Ser 160	Glu	Leu	Tyr	Gly
Lys 165	Val	Gln	Glu	Ile	Pro 170	G1n	Lys	Glu	Thr	Thr 175	Pro	Phe	Tyr	Pro	Arg 180
Ser	Pro	Tyr	Gly	Ala 185	Ala	Lys	Leu	Tyr	Ala 190	Tyr	Trp	Ile	Val	Val 195	Asn
Phe	Arg	G1u	Ala 200	Tyr	Asn	Leu	Phe	Ala 205	Val	Asn	Gly	Ile	Leu 210	Phe	Asn
His	Glu	Ser 215	Pro	Arg	Arg	Gly	Ala 220	Asn	Phe	Val	Thr	Arg 225	Lys	Ile	Ser
Arg.	Ser 230	Val	Ala	Lys	Ile	Tyr 235	Leu	Gly	G1n	Leu	Glu 240	Cys	Phe	Ser	Leu
Gly 245	Asn	Leu	Asp	Ala	Lys 250	Arg	Asp	Trp	Gly	His 255	Ala	Lys	Asp	Tyr	Va1 260
Glu	Ala	Met	Trp	Leu 265	Met	Leu	Gln	Asn	Asp 270	Glu	Pro	Glu	Asp	Phe 275	Val
Ile	Ala	Thr	Gly 280		Val	His	Ser	Val 285	Arg	Glu	Phe	Val	G1u 290	Lys	Ser
Phe	Met	His 295	Ile	Gly	Lys	Thr	Ile 300		Trp	Glu	Gly	Lys 305		Glu	Asn
Glu	Val 310		Arg	Cys	Lys	Glu 315		Gly	Lys	Ile	His 320		Thr	Val	Asp
Leu 325		Tyr	Tyr	Arg	Pro		Glu	Val	Asp	Phe 335		G1n	Gly	Asp	Cys 340

Ser Lys Ala Gln Gln Lys Leu Asn Trp Lys Pro Arg Val Ala Phe Asp 345 350 355

Glu Leu Val Arg Glu Met Val Gln Ala Asp Val Glu Leu Met Arg Thr 360 365 370

Asn Pro Asn Ala 375

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<211> 321

<212> PRT

<213> Cricetulus griseus

<400> 72

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Gly Leu Val Gly Arg Ala Ile Gln Lys Val Val Ala Asp Gly Ala Gly
20 25 30

Leu Pro Gly Glu Glu Trp Val Phe Val Ser Ser Lys Asp Ala Asp Leu 35 40 45

Thr Asp Ala Ala Gln Thr Gln Ala Leu Phe Gln Lys Val Gln Pro Thr 50 55 60

His Val Ile His Leu Ala Ala Met Val Gly Gly Leu Phe Arg Asn Ile 65 70 75 80

Lys Tyr Asn Leu Asp Phe Trp Arg Lys Asn Val His Ile Asn Asp Asn 85 90 95

Val Leu His Ser Ala Phe Glu Val Gly Thr Arg Lys Val Val Ser Cys 100 105 110

Leu Ser Thr Cys Ile Phe Pro Asp Lys Thr Thr Tyr Pro Ile Asp Glu 115 120 125

Thr Met Ile His Asn Gly Pro Pro His Ser Ser Asn Phe Gly Tyr Ser 130 135 140

Tyr Ala Lys Arg Met Ile Asp Val Gln Asn Arg Ala Tyr Phe Gln Gln His Gly Cys Thr Phe Thr Ala Val Ile Pro Thr Asn Val Phe Gly Pro His Asp Asn Phe Asn Ile Glu Asp Gly His Val Leu Pro Gly Leu Ile His Lys Val His Leu Ala Lys Ser Asn Gly Ser Ala Leu Thr Val Trp Gly Thr Gly Lys Pro Arg Arg Gln Phe Ile Tyr Ser Leu Asp Leu Ala Arg Leu Phe Ile Trp Val Leu Arg Glu Tyr Asn Glu Val Glu Pro Ile Ile Leu Ser Val Gly Glu Glu Asp Glu Val Ser Ile Lys Glu Ala Ala Glu Ala Val Val Glu Ala Met Asp Phe Cys Gly Glu Val Thr Phe Asp Ser Thr Lys Ser Asp Gly Gln Tyr Lys Lys Thr Ala Ser Asn Gly Lys Leu Arg Ala Tyr Leu Pro Asp Phe Arg Phe Thr Pro Phe Lys Gln Ala Val Lys Glu Thr Cys Ala Trp Phe Thr Asp Asn Tyr Glu Gln Ala Arg Lys <210> 73 <211> 590 <212> PRT <213> Cricetulus griseus

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<400> 73

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- Gly Gln Gln Asp Leu Ser Gly Gly Asp Thr Thr Cys His Pro Leu His 245 250 255
- Ser Glu Tyr Val Tyr Thr Asp Ser Leu Phe Tyr Met Asp His Lys Ser 260 265 270
- Ala Lys Lys Leu Leu Asp Phe Tyr Glu Ser Val Gly Pro Leu Asn Cys 275 280 285
- Glu Ile Asp Ala Tyr Gly Asp Phe Leu Gln Ala Leu Gly Pro Gly Ala 290 295 300
- Thr Ala Glu Tyr Thr Lys Asn Thr Ser His Val Thr Lys Glu Glu Ser 305 310 315 320
- His Leu Leu Asp Met Arg Gln Lys Ile Phe His Leu Leu Lys Gly Thr 325 330 335
- Pro Leu Asn Val Val Leu Asn Asn Ser Arg Phe Tyr His Ile Gly 340 345 350
- Thr Thr Glu Glu Tyr Leu Leu His Phe Thr Ser Asn Gly Ser Leu Gln 355 360 365
- Ala Glu Leu Gly Leu Gln Ser Ile Ala Phe Ser Val Phe Pro Asn Val 370 375 380
- Pro Glu Asp Ser His Glu Lys Pro Cys Val Ile His Ser Ile Leu Asn 385 390 395 400
- Ser Gly Cys Cys Val Ala Pro Gly Ser Val Val Glu Tyr Ser Arg Leu 405 410 415
- Gly Pro Glu Val Ser Ile Ser Glu Asn Cys Ile Ile Ser Gly Ser Val 420 425 430
- Ile Glu Lys Ala Val Leu Pro Pro Cys Ser Phe Val Cys Ser Leu Ser 435 440 445
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